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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/570,830	TAYLOR ET AL.	
	Examiner	Art Unit	
	ANEZ EBRAHIM	2419	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 September 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23,39-58,61 and 62* is/are pending in the application.

4a) Of the above claim(s) *24-38,59 and 60* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23,39-58,61 and 62* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-23, 39-58 and 61-62 have been examined and are pending.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-6, 12-14, 39, 41-50, 52-56 and 58 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent 7324515 Chapman(here in after "Chapman").

As per claim 1 Chapman teaches a cable modem termination system (CMTS), the CMTS comprising: a gateway configured to output signals on at least two types of data tunnels for transfer over a cable network to Customer Premises Equipment (CPE) (Fig1, broadcast is a tunnel 28 is created to send OOB message to Set Top Box(Customer premise equipment) and Column 2, line 4-6, proxy is using lookup table to create different tunnels over

the cable), each data tunnel characterized as a one-way data stream of out-of-band (OOB) messaging signals (Column 6, line 52-55, different tunnels are created to different messages to send it over to CPE and Fig 2.B OOB messages are sent to the set top box in one way operation) wherein each type of data tunnel is associated with a different type of OOB messaging signal such that different types of data tunnels transfer different types of OOB messages (Column 6, line 51-55 and Referring to FIG. 6, there can be different addressing schemes used for sending different OOB messages over different Ethernet tunnels.).

As per claim 2 Chapman teaches the CMTS of claim 1 wherein the gateway is configured to output the OOB messaging signals on at least four types of data tunnels (*Column 2, line 28-31, mention about four types of Out-of-band messages for tunneling to the CPE from CMTS*).

As per claim 3 Chapman teaches the CMTS of claim 1 wherein at least one of the types of data tunnels is a broadcast tunnel (Column *3, line 1-2, creates a DOCSIS broadcast tunnel 28 in the HFC 21 to all of the clients 26*).

As per claim 4 Chapman teaches the CMTS of claim 1 wherein at least one of the types of data tunnels is a conditional access tunnel (*Column 6, line 52-55, different messaging tunnels are created conditional access is one of the message*).

As per claim 5 Chapman teaches the CMTS of claim 1 wherein at least one of the types of data tunnels is an application tunnel (*Column 6,line 10-12, Electronic programming guide is used for sending application information*).

As per claim 6 Chapman teaches the CMTS of claim 1 wherein at least one of the types of data tunnels is a code download tunnel (*Column 1, line 14-15, software updates messages are sent to individual CPE as a channel for software updating of the equipment*).

As per claim 12 Chapman teaches the CMTS of claim 1 wherein each data tunnel is identified with a network address (*Column 6, line 57-62, each destination is identified by an IP address it establishes a different Ethernet tunnel for each of the IP addresses*).

As per claim 13 Chapman teaches the CMTS of claim 1 wherein the gateway transfers the OOB messaging signals according to protocols defined in a Data Over Cable Service Interface Specification (*Column 3, line 62-63, shows the modified process that the DOCSIS cable modems use for receiving OOB packets*).

As per claim 14 Chapman teaches the CMTS of claim 1 wherein the CPE is a settop box (*Fib 1, box 16, CPE here is shown as settop box*).

As per claim 39. (New), Chapman teaches a method comprising: receiving data services information from a data network (Fig. 5 CMTS is receiving data from internal data network 76-82 for transmission to set top boxes); receiving out-of-band signals and application data from a management network (Column 3, line 40-45, CMTS is receiving OOB messages from the server 10 for transmission to the set top boxes); processing the data services information, out-of-band signals, and application data for transmission (Column 3, line 47-50, proxy 14 performs MAC level rewrite for transmission of OOB

signals to the multiple set top boxes based on the lookup table); and transmitting the data services information, out-of-band signals, and application data to Customer Premises equipment (CPE) on two-way output channels (Column 1, line 57-59, transmitting the OOB messages as two-way channel, Column 4, line 1-2 cable modem receiving OOB messages conducts two-way initialization) and a plurality of different types of one-way output data tunnels, each different type of out-of-band signal sent on a different type of data tunnel (Column 6, line 51-55, Referring to FIG. 6, there can be different addressing schemes used for sending different OOB messages over different Ethernet tunnels).

As per claim 41. (New) Chapman teaches the method of claim 39, Chapman further teaches comprising receiving digital cable packets from a subscriber station (*Column 5, line 11-14, each STB boxes at the customer premises sent message to CMTS through the digital network*).

As per claim 42. (New) Chapman teaches the method of claim 41, Chapman further teaches comprising converting the digital cable packets to IP packets (*Column 5, 18-21, when the DOCSIS receives the message over digital network it format the message into the IP packets*).

As per claim 43. (New) Chapman teaches the method of claim 42, Chapman further comprising transmitting the IP packets to an internet service provider (*Fig 1, provider is a CMTS 12 and server 10, where the packet is IP the packet from server is transmitted to the CMTS for further transmission to the clients).*

As per claim 44. (New) Chapman teaches the method of claim 39, Chapman further teaches wherein the tunnel type is a common broadcast tunnel *(Column 3, line 1-5, DOCSIS broadcast tunnels are created by CMTS and sent over HFS network to the clients).*

As per claim 45. (New) Chapman teaches the method of claim 39, Chapman further teaches wherein the tunnel type is a conditional access tunnel *(Column 2, line 28-29, conditional access channels are created).*

As per claim 46. (New) Chapman teaches the method of claim 39, Chapman is silent but 'Chapman B' teaches further comprising transmitting a downstream channel descriptor message for mapping different tunnels with their network address (*Column 18, line 50-5, a downstream channel descriptor is sent along with down stream channels for identification purposes).*

As per claim 47. (New) Chapman teaches a method comprising: receiving video signals, data services information, out-of-band signals, and application data at Customer Premises Equipment (CPE) on two-way output channels *(*Column 5, line 35-40, cable modem which is located customer premises equipment can act as an interactive gaming or streaming ie two-way(streaming includes video, application data, and OOB signals)) and on a plurality of one-way data tunnels *(*Column 6, line 51-55, Referring to FIG. 6, there can be different addressing schemes used for sending different OOB messages over different Ethernet tunnels*)*, each different type of out-of-band signal received on a different type of data tunnel

(*Column 2, line 28-32, different kind of data tunnels such as broadcast data tunnel, electronic program channel, emergency channel etc*); transmitting the data services information and out-of-band signals to one or more devices with cable modem functionality *(Fig 1, data is being transmitted from the head end to multiple devices);* and transmitting the application data and video signals to one or more devices with set-top box functionality (*Fig 4, Box 74, video signals box 70 DOCSIS data are being sent from head end to set top box (Fig 2B 49)*

As per claim 48. (New) Chapman teaches a method of claim 47, Chapman further teaches wherein the communication of the video signals, data services information, out-of-band signals, and application data is defined by the Data Over Cable Service Interface Specification (DOCSIS) *(Column 3, line 5-8, head end transmits the data packets in DOCSIS standard).*

As per claim 49. (New) Chapman teaches a method of claim 47, Chapman further teaches wherein the one or more devices with set-top box functionality outputs the video signals and other media signals to a media output device *(Column 5, line 40-44, the cable modem receives the video packets through cable network and output the converted contents to the TV for viewing).*

As per claim 50. (New) Chapman teaches a method of claim 47, Chapman further teaches wherein the one or more devices with cable modem functionality processes the out-of-band signals (*Column 5, line 35-38. cable modem process the video and interactive media signals from the head end to be viewed on the TV set*) and

other non-media signals *(Column 5,line 24-26, cable modem devices process the control signals from the user terminal to be sent to the head end for viewing).*

As per claim 52. (New) Chapman teaches a method of claim 47, Chapman further teaches comprising providing conditional access control for the subscriber station (*Column 2, line 28-33, conditional access messages are being sent as OOB message to the STB's*).

As per claim 53. (New) Chapman teaches An apparatus comprising (*Fig 1, Box 12, the cable modem termination system*) : a processor; a memory having stored therein computer executable instructions (Column 2, line 12-15, CMTS is a cable modem termination system in inherently has a processor, logic and instruction to receive the data and convert it into a HFC format and sent to the clients), that when executed by the processor, cause the apparatus to perform a method of: receiving video signals , data services information, out-of-band signals, and application data at Customer Premises Equipment (CPE) on two-way output channels and on a plurality of one-way data tunnels (Column 5, line 35-40, cable modem which is located customer premises equipment can act as an interactive gaming or streaming ie two-way(streaming includes video, application data, and OOB signals), each different type of out-of-band signal received on a different type of data tunnel ((Column 6, line 51-55, Referring to FIG. 6, there can be different addressing schemes used for sending different OOB messages over different Ethernet tunnels); transmitting the data services

information and out-of-band signals to one or more devices with cable modem functionality (Fig 1, Box 12 cable modem termination system transmitting data OOB services to multiple clients cable modem Box 28); and transmitting the application data and video signals to one or more devices with set-top box functionality (Fig 1, Box 12 cable modem termination system transmitting data OOB services to multiple clients set top Box 26)

As per claim 54. (New) Chapman teaches the apparatus of claim 53, Chapman further teaches wherein the communication of the video signals, data services information, out-of-band signals, and application data is defined by the Data Over Cable Service Interface Specification (DOCSIS) *(Column 3, line 5-8, head end transmits the data packets in DOCSIS standard)*.

As per claim 55. (New) The apparatus of claim 53, wherein the one or more devices with set-top box functionality outputs the video signals and other media signals to a media output device (*Column 5, line 35-38. cable modem process the video and interactive media signals from the head end to be viewed on the TV set*).

As per claim 56. (New) Chapman teaches the apparatus of claim 53, Chapman further teaches wherein the one or more devices with cable modem functionality processes the out-of-band and other non-media signals (*Column 5,line 24-26, cable modem devices process the control signals from the user terminal to be sent to the head end for viewing*.

As per claim 58. (New) Chapman teaches the apparatus of claim 53, Chapman further where the method further performs providing conditional access control for the subscriber station (*Column 2, line 28-33, conditional access messages are being sent as OOB message to the STB's*).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 15-16 are rejected under 35 U.S.C. 103(a) as being anticipated US Patent 7324515 to Chapman (here in after "Chapman") ,US Patent Number US 6853680 B1, to (here in after "Nikolich") and further in view of US PG Publication US 2005/0177861 A1, to Ma et al (here in after "Ma").

As per claim 15 Chapman does not teach but combination of Nikolich and Ma teaches the CMTS of claim 1 wherein the CPE includes an embedded cable modem (eCM) (*Nikolich, Column 10, line 55-56, mentions about an embedded cable modem)* and an embedded settop box (eSTB) (*Ma, Para[0028], an embedded cable modem is mentioned in the customer premise*).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention, to modify the system of Chapman the CPE includes an embedded cable modem (eCM) and an embedded set top box (eSTB) shown by combination of Nikolich and Ma. This modification would benefit the system of Chapman by having a eSTB an eCM as a CPE devices.

As per claim 16 combination of Chapman, Nikolich and Ma teaches the CMTS of claim 15 wherein the OOB messaging signals are transferred to the eCM (Chapman, *Column 6, line 52-55, different tunnels are created to different messages to send it over to cable modem which can include embedded cable modem).*

5. Claim 17 is rejected under 35 U.S.C. 103(a) as being anticipated US Patent 7324515 to Chapman (here in after "Chapman a") and further in view of US Patent Number US 7349430 B1, to Chapman (here in after "Chapman b").

As per claim 17 'Chapman a' doesn't teach but 'Chapman b' teach the CMTS of claim 1 wherein the CMTS outputs a downstream channel descriptor (DCD) for associating the different types of data tunnels with network address (*Column 9,line 61-65, Each Channel is identified by a downstream channel descriptor for downstream message from CMTS to CM*).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention, to modify the system of Chapman by CMTS outputs a downstream channel descriptor (DCD) for associating the different types of data tunnels with network address

shown by combination of Chapman. This modification would benefit the system of Chapman by having downstream channel descriptor for a different tunnels.

3. Claims 7-11, and 18-23, are rejected under 35 U.S.C. 103(a) as being anticipated US Patent 7324515 to Chapman (here in after "Chapman") , and further in view of US PG Publication US 2003/0120819 A1, to Abramson et al (here in after "Abramson ").

As per claim 7, Chapman does teach teaches the CMTS of claim 1, Chapman is silent but Abramson teaches further comprising a plurality of output ports in communication with the gateway for outputting the data streams of the data tunnels onto the network, wherein each output port includes at least two types of data tunnels (*Para[0027], downstream port 102b provides services to different areas each areas can serve different downstream messaging tunnels*).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention, to modify the system of Chapman by comprising a plurality of output ports in communication with the gateway for outputting the data streams of the data tunnels onto the network, wherein each output port includes at least two types of data tunnels, as suggested by Abramson. This modification would benefit the system of Chapman by acting as a cable modem termination system which can create multiple tunnels through multiple ports.

As per claim 8, the combination of Abramson and Chapman teaches the CMTS of claim 7, Chapman further teaches wherein a first and a second one of the plurality of output ports are associated with different types of OOB messaging signals (Chapman, *column 7, line 17-20, for each OOB messages have encapsulated messages from each of the port*).

As per claim 9 the combination of Abramson and Chapman teaches the CMTS of claim 8, combination further teaches comprising a plurality of blades, each blade including one or more output ports (Abramson, *Fig 1, Blade B has more than one port from 102 b to 116b*).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention, to modify the system of Chapman by comprising a plurality of blades, each blade including one or more output ports, as shown by Abramson. This modification would benefit the system of Chapman by having a multiple blade single chassis cable modem termination system.

As per claim 10 the combination of Abramson and Chapman teaches the CMTS of claim 9 wherein the first and second output ports are located on the same blade (Abramson, *fig 1, Blade B 102b and 104 b are located in the same blade*).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention, to modify the system of Chapman by first and second output ports are located on the same blade, as shown by Abramson. This modification would benefit the system of Chapman by having multiple ports on the same ports for creating multiple tunnel messages through the port.

As per claim 11 the combination of Abramson and Chapman teaches the CMTS of claim 9, combination further teaches wherein the first and second output ports are located on different blades (Abramson, *Fig 1, 102a in blade B and 102 b in blade b are located in the different blade*).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention, to modify the system of Chapman by first and second output ports are located on the different blade, as shown by Abramson. This modification would benefit the system of Chapman by having multiple ports single chassis and multiple blades so that multiple tunnels can be created for multiple clients.

As per claim 18 Chapman teaches the a cable modem termination system (CMTS), the CMTS comprising:

a gateway configured to output signals on a plurality of data tunnels for transfer over a cable network to Customer Premises Equipment (CPE) (*Fig1, broadcast is a tunnel 28 is created to send OOB message to STB similarly and application tunnel for electronic program guide as mentioned*), each data tunnel characterized as a one-way data stream of out-of-band (OOB) messaging signals (*Column 6, line 52-55, different tunnels are created to different messages to send it over to CPE*); and

Chapman does not teach but Abramson a plurality of output ports for transferring the OOB messaging signals from the gateway to the cable network, wherein each output port is capable of transferring different OOB messaging signals (10/027781, *Para[0027], downstream port 102b provides services to different areas each areas can serve different downstream messaging tunnels*).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention, to modify the system of Chapman by plurality of output ports for transferring the OOB messaging signals from the gateway to the cable network, wherein each output port is capable of transferring different OOB messaging signals, as shown by Abramson. This modification would benefit the system of Chapman by having port which can produce multiple tunnels for multiple OOB messages.

As per claim 19 the combination of Abramson and Chapman teaches the CMTS claim 18 wherein each output port includes at least two types of data tunnels (Abramson, *Para[0027], downstream port 102b provides services to different areas each areas can serve different downstream messaging tunnels*).

Motivation:

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention, to modify the system of Chapman by each output port includes at least two types of data tunnels as shown by Abramson. This modification would benefit the system of Chapman by having port which can produce multiple tunnels for multiple OOB messages.

As per claim 20 the combination of Abramson and Chapman teaches the CMTS of claim 18 wherein a first and a second one of the plurality of output ports are associated with different OOB messaging signals (Chapman, *Column 7, line 17-20, for each OOB messages have encapsulated messages from each of the port*).

As per claim 21 the combination of Abramson and Chapman teaches the

CMTS of claim 20 further comprising a plurality of blades, each blade including one or more output ports (Abramson, *Fig 1, Blade B has more than one port from 102 b to 116b*).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention, to modify the system of Chapman by a plurality of blades, each blade including one or more output ports, as shown by Abramson. This modification would benefit the system of Chapman by having multiple ports on the same ports for creating multiple tunnel messages through the port.

As per claim 22 the combination of Abramson and Chapman teaches the CMTS of claim 21 wherein the first and second output ports are located on the same blade (Abramson, *Fig 1, Blade B 102b and 104 b are located in the same blade*).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention, to modify the system of Chapman by first and second output ports are located on the same blade, as shown by Abramson. This modification would benefit the system of Chapman by having multiple ports on the same ports for creating multiple tunnel messages through the port.

As per claim 23 the combination of Abramson and Chapman teaches the CMTS of claim 21 wherein the first and second output ports are located on different blades (Abramson, *Fig 1, 102a in blade B and 102 b in blade b are located in the different blade*).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention, to modify the system of Chapman by first and second output ports are

located on the different blade, as shown by Abramson. This modification would benefit the system of Chapman by having multiple ports single chassis and multiple blades so that multiple tunnels can be created for multiple clients.

3. Claim 40 is rejected under 35 U.S.C. 103(a) as being anticipated US Patent 7324515 to Chapman (here in after "Chapman") , and further in view of US PG Publication US 20080010300 A1, to BUNN et al (here in after "BUNN").

As per claim 40. (New) Chapman teaches a method of claim 39, Chapman is silent but BUNN teaches wherein processing the data services information, out- of-band signals, and application data comprises converting them from IP packets into digital cable packets (*Para[0046], cable modem which is receiving the packet from the IP network and converts into digital cable format to be sent over to head end*) . US 20080010300 A1

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention, to modify the system of Chapman by the data services information, out- of-band signals, and application data comprises converting them from IP packets into digital cable packets, as shown by Abramson. This modification would benefit the system of Chapman by a converting packets from packet based technology to Cable based technology like HFC.

3. Claim 40 is rejected under 35 U.S.C. 103(a) as being anticipated US Patent 7324515 to Chapman (here in after "Chapman") , and further in view of US PG Publication US 20020019984 A1, to Rakib (here in after "Rakib").

As per claim 51. (New) Chapman teaches a method of claim 50, Chapman is silent but Rakib teaches wherein the one or more devices with cable modem functionality further transmits the out-of-band and the other non-media signals to the one or more devices with set-top box functionality via an internal communications link for processing (*Para[0053], cable modem 78 sends the data packets that include video and control signal through the internal link 86 to the set top box decoder 80 for viewing to the TV 82*).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention, to modify the system of Chapman by the data services information, out- of-band signals, and application data comprises converting them from IP packets into digital cable packets, as shown by Abramson. This modification would benefit the system of Chapman by integrating multiple functional units such as cable modem and set top box into one single box for user convenience.

As per claim 57. (New) Chapman teaches the apparatus of claim 56, Chapman is silent but Rakib teaches wherein the one or more devices with cable modem functionality further transmits the out-of-band and the other non-media signals to the one or more devices with set-top box functionality via an internal communications link for processing *Para[0053], cable modem 78 sends the data packets that include video*

and control signal through the internal link 86 to the set top box decoder 80 for viewing to the TV 82).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention, to modify the system of Chapman by the data services information, out- of-band signals, and application data comprises converting them from IP packets into digital cable packets, as shown by Abramson. This modification would benefit the system of Chapman by integrating multiple functional units such as cable modem and set top box into one single box for user convenience.

3. Claims 61 and 62 are rejected under 35 U.S.C. 103(a) as being anticipated US Patent 7324515 to Chapman (here in after "Chapman") , and further in view of US PG Publication US 20040030804 A1, to Wiget et al. (here in after "Wiget ").

As per claim 61. (New) A cable modem termination system (CMTS), the CMTS comprising: a gateway configured to output signals on at least two types of data tunnels for transfer over a cable network to Customer Premises Equipment (CPE) ( ) Fig1, broadcast is a tunnel 28 is created to send OOB message to Set Top Box(Customer premise equipment) and Column 2, line 4-6, proxy is using lookup table to create different tunnels over the cable), each data tunnel characterized as a one-way data stream of out-of-band (OOB) messaging signals (Column 6, line 52-55, different tunnels are

created to different messages to send it over to CPE and Fig 2.B OOB messages are sent to the set top box in one way operation), wherein each type of data tunnel is associated with a different type of OOB messaging signal such that different types of data tunnels transfer different types of OOB messages (Column 6, line 51-55, Referring to FIG. 6, there can be different addressing schemes used for sending different OOB messages over different Ethernet tunnels)

Chapman is silent but Wiget teaches wherein a media access control (MAC) address of each tunnel type is used by the CPE to locate a desired tunnel (Para [0057], CPE is configured to listen to the constructed MAC address and the constructed MAC identifies the tunnel and Para [0031], each tunnel is associated with link layer information or MAC address information).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention, to modify the system of Chapman by wherein a media access control (MAC) address of each tunnel type is used by the CPE to locate a desired tunnel, as shown by of Wiget. This modification would benefit the system of Chapman by customer control over the desired selection.

As per claim 62, Chapman teaches a method comprising: receiving data services information from a data network (Fig. 5 CMTS is receiving data from internal data network 76-82 for transmission to set top boxes); receiving out-of-band signals and application data from a management network

(Column 3, line 40-45, CMTS is receiving OOB messages from the server 10 for transmission to the set top boxes); processing the data services information, out-of-band, and application data for transmission signals (Column 3, line 47-50, proxy 14 performs MAC level rewrite for transmission of OOB signals to the multiple set top boxes based on the lookup table); and transmitting the data services information, out-of-band signals, and application data to Customer Premises Equipment (CPE) on two-way output channels (Column 1, line 57-59, transmitting the OOB messages as two-way channel, Column 4, line 1-2 cable modem receiving OOB messages conducts two-way initialization) and a plurality of different types of one-way output data tunnels, wherein each different type of out-of-band signal is sent on a different type of data tunnel (Column 6, line 51-55, Referring to FIG. 6, there can be different addressing schemes used for sending different OOB messages over different Ethernet tunnels).

Chapman is silent but Wiget teaches wherein a media access control (MAC) address of each tunnel type is used by the CPE to locate a desired tunnel (Para [0057], CPE is configured to listen to the constructed MAC address and the constructed MAC identifies the tunnel and Para [0031], each tunnel is associated with link layer information or MAC address information).

Examiner supplies the same motivation as applied in claim 61.

Response to Arguments

On page 9 of Applicants Response, applicant argues: "During the interview, it was agreed that the prior art of record did not teach the heretofore unclaimed feature disclosed in the second paragraph of page 7 of the specification (See, "A media control access (MAC) address of each tunnel type 182 may be used by the CPE 22 or other downstream device to locate desired tunnels 154-162.", Applicant's arguments with respect to claim newly added claims 61-62 have been considered but are moot in view of the new ground(s) of rejection.

On page 10 of Applicants Response, applicant argues: "Even though the servers in Chapman may send different OOB messages to a proxy at the head end, this is still not equivalent to a "a gateway configured to output signals on at least two types of data tunnels for transfer over a cable network to Customer Premises Equipment (CPE), each data tunnel characterized as a one-way data stream of out-of-band (OOB) messaging signals, where each type of data tunnel is associated with a different type of OOB messaging signal such that different types of data tunnels transfer different types of OOB messages". Applicant's arguments filed regarding the claim 1 have been fully considered but they are not persuasive. Chapman teaches how OOB message are being sent from the head end to the cable clients or customer premise equipments, at the head end side packet is received by the CMTS from the server and look at the destination Ethernet address and sent each OOB messages to the individual set top boxes or customer premise equipments using MAC level rewrite, each customer

premise equipment or set top box receives the OOB and looks at the Ethernet address to receives the tunnel (Column 3, line 40-60).

On page 10 of Applicants Response, applicant argues: "The servers 76-82 of Chapman and proxy 97 are both located at the head end and, therefore, the communications lines established between them do not transfer data to customer premises equipment, as claimed". Applicant's arguments filed regarding the claim 1 have been fully considered but they are not persuasive. Chapman teaches the head end information goes to the customer premise equipment (Set top boxes) (Column 2, line 24-28).

On page 12 of Applicants Response, applicant argues that: "None of the references of record teach this feature of new independent claim 61. For instance, Chapman uses well-known Ethernet addresses to transport packets to clients". Applicant's arguments with respect to claim New Independent Claims 61 and 62 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. Prior arts made of record, not relied upon: US Patent 6347303; US Patent 7260648; US Patent Publication 2005/0198680 A1, ; US Patent Publication 2004/0139473 A1

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANEZ EBRAHIM whose telephone number is (571)270-7153. The examiner can normally be reached on M-F 8 AM to 5 PM If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pankaj Kumar can be reached on (571) 272-3011. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ACE/

9/25/09

/Pankaj Kumar/

Supervisory Patent Examiner, Art Unit 2419